I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on Jan. 14, 2008.

TOWNSEND and TOWNSEND and CREW LLP

By: [signature]

PATENT
Attorney Docket No.: 09623V-047600US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Remy Zimmermann

Application No.: 10/767,132

Filed: January 28, 2004

For: USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

Customer No.: 20350

Confirmation No.: 4300

Examiner: Stephen D. Alvesteffer

Art Unit: 2173

DECLARATION UNDER 37 C.F.R. 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Remy Zimmermann, hereby declare and state as follows:

1. I am the inventor of the subject matter recited in all pending claims of the above-entitled application.

2. Prior to January 6, 2004, I conceived the subject matter of the inventions described in the pending claims.

3. From before January 6, 2004 to January 28, 2004, I and Mr. Paul C. Haughey, a patent attorney at Townsend and Townsend and Crew and attorney of record of the above-identified application, diligently worked towards filing this patent application in the U.S. Patent and Trademark Office.

4. Attachment 1 is a copy of a letter sending the application to Logitech for routing to me for review and signature dated January 6, 2004.

5. Attachment 2 is a copy of the application as filed, and my declaration dated January 9, 2004, reflecting my review of the application.

6. Attachment 3 is a copy of the e-mail of January 16, 2004 from Gloria Sikora, secretary to attorney Paul C. Haughey, to Virgine Henchoz requesting signatures on a power of attorney for this application.

7. Attachment 4 is a copy of a transmittal letter from Ms. Henchoz to Ms. Sikora enclosing the signed power of attorney.

8. As noted on Attachment 1, attorney Paul C. Haughey was on vacation until January 28, 2004, the application was promptly filed the day he returned.

9. I declare that all statements made herein of my own knowledge is true and that all statements made on information and belief is believed to be true; and further that these statements were made with the knowledge that willful false statements, and the like, so made are punishable by a fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 01/11/08

By: _____
Remy Zimmermann

Enclosures: Attachment 1
Attachment 2
Attachment 3
Attachment 4

TOWNSEND
and
TOWNSEND
and
CREW

Palo Alto

January 6, 2004

Ms. Eleanor Carrillo
Legal Assistant
Logitech, Inc.
6505 Kaiser Drive
Fremont, CA 94555

Re: Proposed New Patent Application
USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING
Inventor: Remy Zimmermann
Our File: 09623V-047600US

Dear Eleanor:

Enclosed for Remy Zimmermann's review and signature is the latest version of the above application as provided by Deepti. If all is in order, please have Remy sign and date the Declaration and Assignment documents where indicated, and return the executed application to us for filing in the United States Patent and Trademark Office.

If revisions are required, please have Remy mark his changes directly on the application and return it to us, or send his changes via email to *gjsikora@townsend.com.* I will revise the application accordingly and re-submit it for his signature. Note that Paul Haughey is out of the office until **January 28, 2004**.

Best regards,

Gloria J. Sikora
Secretary to Paul C. Haughey

Enclosure

cc: Deepti Panchawagh-Jain, Esq.

60112526 v1

ATTACHMENT 1

Attorney Docket No.: 09623V-047600US
Client Ref. No.:

PTO/SB/01A (08-03)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

As the below named inventor(s), I/we declare that:

This declaration is directed to:

☒ The attached application, or

☐ Application No. _____, filed on _____,

☐ as amended on _____ (if applicable);

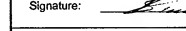
I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)

Inventor 1	Remy Zimmermann	Date:	21/09/04
Signature:		Citizen of:	Switzerland
Inventor 2		Date:	
Signature:		Citizen of:	
Inventor 3		Date:	
Signature:		Citizen of:	
Inventor 4		Date:	
Signature:		Citizen of:	

☐ Additional inventors are being named on additional form(s) attached hereto.

60112469 v1

ATTACHMENT 2

Attorney Docket No.: 09623V-047600US

PATENT APPLICATION

USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

Inventor: **Remy Zimmermann**, a citizen of Switzerland, residing at
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USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] NOT APPLICABLE

STATEMENT AS TO RIGHTS TO INVENTIONS MADE UNDER FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] NOT APPLICABLE

REFERENCE TO A "SEQUENCE LISTING," A TABLE, OR A COMPUTER PROGRAM LISTING APPENDIX SUBMITTED ON A COMPACT DISK

[0003] NOT APPLICABLE

BACKGROUND OF THE INVENTION

[0004] The present invention relates generally to instant messenger services, and more specifically to use of emoticons in instant messaging.

[0005] Over the past few years, contact established by people with each other electronically has increased tremendously. Various modes of communication are used to electronically communicate with each other, such as emails, text messaging, etc. In particular, Instant Messaging (IM), which permits people to communicate with each other over the Internet in real time ("IM chats"), has become increasingly popular.

[0006] Several IM programs are currently available, such as ICQ from ICQ, Inc., America OnLine Instant Messenger (AIM) from America Online, Inc. (Dulles, VA), MSN® Messenger from Microsoft Corporation (Redmond, WA), and Yahoo!® Instant Messenger from Yahoo! Inc. (Sunnyvale, CA).

[0007] While these IM services have varied user interfaces, most of them work in the same basic manner. Each user chooses a unique user ID (the uniqueness of which is checked by the IM service), as well as a password. The user can then log on from any machine (on which the corresponding IM program is downloaded) by using his/her user ID and password.

The user can also specify a "buddy list" which includes the userids and/or names of the various other IM users with whom the user wishes to communicate.

[0008] These instant messenger services work by loading a client program on a user's computer. When the user logs on, the client program calls the IM server over the Internet and lets it know that the user is online. The client program sends connection information to the server, in particular the Internet Protocol (IP) address and port and the names of the user's buddies. The server then sends connection information back to the client program for those of those buddies who are currently online. In some situations, the user can then click on any of these buddies and send a peer-to-peer message without going through the IM server. In other cases, messages may be reflected over a server. In still other cases, the IM communication is a combination of peer-to-peer communications and those reflected over a server. Each IM service has its own proprietary protocol, which is different from the Internet HTTP (HyperText Transport Protocol).

[0009] Conventionally, when two users are logged in to an IM program, they can communicate with each other using text. More recently, IM programs also permits users to communicate not only using text alone, but also using audio, still pictures, video, etc. Furthermore, use of "emoticons" has also become very common in IM programs. Emoticons are graphics which are used to visually express the user's emotions/feelings, and enhance the text/words the user is employing. Thus emoticons could be considered the equivalent of seeing an expression on a person's face during a face-to-face conversation.

[0010] Several emoticons are currently insertable by a user during an IM chat. Some examples of commonly used emoticons include ☺ (smiling face), ☹ (sad face), etc. Currently, IM applications include a selection of predefined available emoticons. These available emoticons are generally inserted in an IM chat in one of the following ways. One way for the user to insert an emoticon is to include a certain set of ASCII characters corresponding to an emoticon. For example, most IM applications will insert the smiling face shown above when the user enters a colon ":", followed by a dash "-", followed by a right bracket ")". Another way for the user to insert an emoticon into an IM chat is to select an emoticon from a selection of available emoticons by clicking on it.

[0011] More recently, some customizable emoticons have become available on some IM applications. For example, a feature is available in MSN messenger which allows the user to import an image from the file system. The image selected by the user is rescaled to match the

resolution of emoticons. However, even for such customizable emoticons, the image file has to be already available, and such customized emoticons are inserted in an IM chat in the manners described above.

[0012] There are several problems with the current use of emoticons, some of which are described below. First, the use of predefined sets of ASCII characters to denote specific emoticons requires the user to memorize the ASCII character sets corresponding to various emoticons. The standard user remembers very few of these ASCII character sets, and thus his repertoire of emoticons used is extremely limited. Second, inserting an emoticon by clicking on it still limits the user, in most cases, to the small selection of emoticons which are easily clickable from an IM chat window. Third, the current use of emoticons does not allow for the insertion of emoticons based on an automatic assessment of the actual emotion of the user. Rather, the emoticons are linked to the user's portrayal of an emotion. This may be analogized to, in the context of a face-to-face conversation, actively "making a face", versus having the other person simply view the speaker's natural expressions. Fourth, the user is restricted by the predefined emoticons and cannot create new emoticons in real-time.

[0013] U.S. Patent No. 6,629,793 discusses the use of a keyboard having keys for generating emoticons and abbreviations. However, this does not provide a solution for users of regular keyboards. In addition, this does not allow for the insertion of emoticons based on an automatic assessment of the emotion of the user.

[0014] U.S. Patent No. 6,453,294 briefly discusses audio-to-text (and vice versa) transcoding, where certain speech (e.g., "big smile") would insert the appropriate emoticon into the text communication. However, such a system is limited by the limitations inherent in speech recognition systems. Moreover, the creation of new emoticons is not discussed.

[0015] U.S. Patent Nos. 6,232,966 and 6,069,622 disclose a method and system for generating comic panels. The patents discuss the generation of expression and gestures of the comic characters based on text and emoticons. However, these patents deal with processing of already existing emoticons, rather than how these emoticons are generated.

[0016] Thus there exists a need for a system and method which permits the creation of "new" emoticons. In addition, there exists a need for a system and method which permits the insertion of emoticons in more user-friendly and natural manners.

BRIEF SUMMARY OF THE INVENTION

[0017] The present invention provides a method, and corresponding apparatus, for advanced use of emoticons in IM applications by using sensory information captured by a device. Such information can include video, still image, and/or audio information.

[0018] In one aspect of the present invention, a system in accordance with an embodiment of the present invention uses multimedia input as a basis for insertion of emoticons in IM communications. Based on a trigger to the system, multimedia input is captured, and relevant features are extracted from it. The extracted information is interpreted, and the interpreted information is mapped onto one or more specific pre-existing emoticons. These specific emoticons are then inserted into the IM communication via an IM API.

[0019] In another aspect of the present invention, new emoticons are created based on the multimedia information captured. For instance, a still image of a user could be captured and used as an emoticon. As another example, realistic emoticons can be generated based on the expressions on the user's face. Animated emoticons can also be created.

[0020] In yet another aspect of the present invention, new/customized emoticons are created, and are inserted into an IM communication based on the capture of multimedia information, and the extraction/interpretation and mapping discussed briefly above.

[0021] The features and advantages described in this summary and the following detailed description are not all-inclusive, and particularly, many additional features and advantages will be apparent to one of ordinary skill in the art in view of the drawings, specification, and claims hereof. Moreover, it should be noted that the language used in the specification has been principally selected for readability and instructional purposes, and may not have been selected to delineate or circumscribe the inventive subject matter, resort to the claims being necessary to determine such inventive subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] The invention has other advantages and features which will be more readily apparent from the following detailed description of the invention and the appended claims, when taken in conjunction with the accompanying drawing, in which:

[0023] Fig. 1 is a block diagram of one embodiment of a conventional IM system.

[0024] Fig. 2 is a block diagram of a system in accordance with an embodiment of the present invention.

[0025] Fig. 3 is a flowchart illustrating the functioning of a system in accordance with an embodiment of the present invention, where emoticons are inserted into an IM communication based on multimedia information captured.

[0026] Fig. 4 is a flowchart illustrating the function of a system in accordance with an embodiment of the present invention, where customized emoticons are created and inserted into an IM communication.

DETAILED DESCRIPTION OF THE INVENTION

[0027] The figures (or drawings) depict a preferred embodiment of the present invention for purposes of illustration only. It is noted that similar or like reference numbers in the figures may indicate similar or like functionality. One of skill in the art will readily recognize from the following discussion that alternative embodiments of the structures and methods disclosed herein may be employed without departing from the principles of the invention(s) herein. It is to be noted that the present invention relates to any type of sensory data that can be captured by a device, such as, but not limited to, still image, video, or audio data. For purposes of discussion, most of the discussion in the application focuses on still image, video and/or audio data. However, it is to be noted that other data, such as data related to smell, could also be used. For convenience, in some places "image" or other similar terms may be used in this application. Where applicable, these are to be construed as including any such data capturable by a digital camera.

[0028] Fig. 1 is a block diagram of one embodiment of a conventional IM system 100. System 100 comprises computer systems110a and 110b, cameras 120a and 120b, network 130, and an IM server 140.

[0029] The computer systems 110a and 110b are conventional computer systems, that may each include a computer, a storage device, a network services connection, and conventional input/output devices such as, a display, a mouse, a printer, and/or a keyboard, that may couple to a computer system. The computer also includes a conventional operating system, an input/output device, and network services software. In addition, the computer includes IM software for communicating with the IM server 140. The network service connection includes those hardware and software components that allow for connecting to a conventional

network service. For example, the network service connection may include a connection to a telecommunications line (e.g., a dial-up, digital subscriber line ("DSL"), a T1, or a T3 communication line). The host computer, the storage device, and the network services connection, may be available from, for example, IBM Corporation (Armonk, NY), Sun Microsystems, Inc. (Palo Alto, CA), or Hewlett-Packard, Inc. (Palo Alto, CA).

[0030] Cameras 120a and 120b are connected to the computer systems 110a and 110b respectively. Cameras 120a and 120b can be any cameras connectable to computer systems 110a and 110b. For instance, cameras 120a and 120b can be webcams, digital still cameras, etc.). In one embodiment, cameras 120a and/or 120b are QuickCam® from Logitech, Inc. (Fremont, CA).

[0031] The network 130 can be any network, such as a Wide Area Network (WAN) or a Local Area Network (LAN), or any other network. A WAN may include the Internet, the Internet 2, and the like. A LAN may include an Intranet, which may be a network based on, for example, TCP/IP belonging to an organization accessible only by the organization's members, employees, or others with authorization. A LAN may also be a network such as, for example, Netware™ from Novell Corporation (Provo, UT) or Windows NT from Microsoft Corporation (Redmond, WA). The network 120 may also include commercially available subscription-based services such as, for example, AOL from America Online, Inc. (Dulles, VA) or MSN from Microsoft Corporation (Redmond, WA).

[0032] The IM server 140 can host any of the available IM services. Some examples of the currently available IM programs are America OnLine Instant Messenger (AIM) from America Online, Inc. (Dulles, VA), MSN® Messenger from Microsoft Corporation (Redmond, WA), and Yahoo!® Instant Messenger from Yahoo! Inc. (Sunnyvale, CA).

[0033] It can be seen from Fig. 1 that cameras 120a and 120b provide still image, video and/or audio information to the system 100. Such multi-media information will be harnessed by the present invention for purposes of presence/status management and/or identity detection.

[0034] Fig. 2 is a block diagram of a system 200 in accordance with an embodiment of the present invention. System 200 is an example of a system which inserts emoticons based upon information extracted from captured multimedia information. System 200 comprises an information capture module 210, an information extraction and interpretation module 220, a mapping module 230, and an IM Application Program Interface (API) 240.

[0035] In one embodiment, the information capture module 210 captures audio, video and/or still image information in the vicinity of the machine on which the user uses the IM application. Such a machine can include, amongst other things, a Personal Computer (PC), a cell-phone, a Personal Digital Assistant (PDA), etc. In one embodiment, the information capture module 210 includes the conventional components of a digital camera, which relate to the capture and storage of multi-media data. In one embodiment, the components of the camera module include a lens, an image sensor, an image processor, and internal and/or external memory.

[0036] The information extraction and interpretation module 220 serves to extract information from the captured multi-media information. Such information extraction and interpretation can be implemented in software, hardware, firmware, etc. Any number of known techniques can be used for information extraction and analysis. Relevant features from the captured information are extracted. For instance, face recognition techniques can be used to identify the user's face. The shape of different features of the user's face could then be determined. Any techniques known in the art could be used for such feature extraction. For example, the shape of a user's lips could be used to interpret whether a user is smiling. As another example, the positions of a user's eyes could be used to interpret whether a user is winking. In one embodiment, the output of the information extraction and interpretation module is independent of the API 240 to which the information is eventually supplied. For instance, the output of the information extraction and analysis module may simply indicate that "the user is smiling" or "the user is winking" etc.

[0037] The information mapping module 230 then takes this output and maps it to specific emoticons. For instance, the output "the user is smiling" may be mapped, for an IM application, to a specific emoticon. The emoticons to which the output of the extraction and interpretation module 220 is mapped may be of various different kinds. For instance, these emoticons could be emoticons which are already available in the IM application. In another instance, these emoticons could be emoticons available through a third-party. The emoticons could be static or animated. As another example, these emoticons could also be customized emoticons that the user creates. These customized emoticons could be created in various ways. One way in which customized emoticons can be created is described below with reference to Fig. 4. It is to be noted that the mapping module 230 can be implemented in software, hardware, firmware, etc., or in any combination of these.

[0038] The mapped information is then provided to the API 240 for the IM application. The IM API 240 can then use this mapped information to insert the emoticon to which the captured data has been mapped, into the IM chat window.

[0039] The detailed functioning of the various modules illustrated in Fig. 2 is discussed with reference to Fig. 3. Fig. 3 is a flowchart illustrating the functioning of a system 200 in accordance with an embodiment of the present invention.

[0040] In one embodiment, as can be seen from Fig. 3, system 200 has to determine (step 310) whether or not the system 200 has received a trigger to enter an embodiment of the present invention. If the system 200 has not received a trigger, no further action is taken (step 315). If the system receives a trigger, then certain steps described below are implemented. There are several ways in which the system 200 could be triggered. In one embodiment, the system 200 is triggered any time when a user is logged into an IM application. In another embodiment, the user may explicitly have to trigger the system 200. The user may do this, for instance, by pressing a specific physical button, or making certain selections on a computer or on the camera itself, provide a voice command, etc. In still another embodiment, the trigger is set off by the user performing a predetermined gesture, which is recognized by the system as the trigger. In another embodiment, a specific ASCII character set typed by the user could serve as the trigger. In yet another embodiment, predefined events can serve as the trigger. Such trigger events can include, for example, a lapse of a certain predefined time period, etc.

[0041] When the system 200 has received a trigger (step 310), it continually captures (step 320) sensory data (e.g., still image, video and/or audio data) captured by the information capture module 210.

[0042] Relevant information is then extracted (step 330) and interpreted from this captured data. As mentioned above with respect to Fig. 2, various techniques can be used to extract and interpret information. In one embodiment, based on the image captured, relevant features of the user's face are extracted. In one embodiment, the extracted information is quantized to match predefined user emotions. In another embodiment, the extracted information is used to create a thumbnail of the user's face with accentuated expression information. In yet another embodiment, this information is used to create low resolution images of the user's face with accentuated expression information. In the latter two cases, new "emoticons" are created. This is discussed in further detail below with reference to Fig. 4.

[0043] Referring to Fig. 3, the interpreted information is then mapped (step 340) to an emoticon. In one embodiment, this emoticon can be an emoticon predefined in the IM application. In another embodiment, the emoticon could be predefined by a third party. In yet another example, the emoticon could be a customized emoticon. Creation of customized emoticons in accordance with an embodiment of the present invention is described below with reference to Fig. 4.

[0044] Some examples of the mapping of the output of the extraction and interpretation module 220 onto emoticons are provided in Table 1 below.

Interpreted Information	Map to output
User is smiling	
User is frowning	
User is winking	
User is wearing sunglasses	

Table 1

[0045] In a second aspect of the present invention, a system in accordance with an embodiment of the invention can be used for creating and inserting customized emoticons in an IM communication. Fig. 4 is a flowchart which illustrates the functioning of such a system in accordance with one embodiment of the present invention.

[0046] As can be seen from Fig. 4, the system needs to determine (step 410) whether or not a trigger for creation (and in some cases, insertion) of emoticons, has been received. As described above with reference to Fig. 3, the trigger can be provided to the system in various different ways. If no trigger is received, no further action is taken (step 415).

[0047] If a trigger is received, the following series of actions is taken. Multimedia information is captured (step 420). In one embodiment, such multimedia information includes still images. In another embodiment, such multimedia information includes video. In yet another embodiment, such multimedia information includes audio. In still another

embodiment, such multimedia information includes a combination of still image, video, audio, etc.

[0048] The captured multimedia information is then processed (step 430) to create emoticons. The processing (step 430) of the captured multimedia information to create emoticons can include, amongst other things, reduction in the size of a captured still image, reduction of the resolution of a captured still image, animation of a captured still image, selection of certain frames from a video clip, etc. In one embodiment, processing (step 430) includes generating a stylized version of the user's "face" from the captured multimedia information.

[0049] The processed multimedia information is then inserted (step 440) as an emoticon in an IM communication. In one embodiment, this insertion (step 440) is in real-time. For example, upon reception of the trigger, a still image of the user is captured (step 420), processed (step 430), and inserted (step 440) into the IM communication. In another embodiment, the insertion (step 440) into an IM communication is at a later time. For example, upon reception of the trigger, a still image of the user is captured (step 420), processed (step 430), and then stored (step 435). The stored information is then later inserted (step 440) into an IM communication. This later insertion can be governed by various factors. In one embodiment, this insertion can be as described in Fig. 3. That is, the stored information can be used as a customized emoticon onto which the output of the extraction/interpretation module 220 can be mapped (step 340).

[0050] It is to be noted that, as IM applications evolve, emoticon will have more capabilities. For example, in the current version of Yahoo Messenger, the emoticons are animated. Therefore, the emoticons generated could be video sequences instead of being static. Further, it is to be noted that the generation and insertion of emoticons described herein is not limited to IM applications, but rather can be used for other applications (e.g., email) as well as for insertion in other electronic communications and/or media.

[0051] As will be understood by those of skill in the art, the present invention may be embodied in other specific forms without departing from the essential characteristics thereof. For example, any of the modules in the systems described above may be implemented in software, hardware, or a combination of these. As another example, users may be able to define various trigger events, and the actions corresponding to each trigger event. As yet another example, other information, such as information relating to smell, movement (e.g.,

walking, running), location (e.g., information provided by a Global Positioning System), fingerprint information, other biometric information, etc. may be used as inputs to a system in accordance with the present invention. While particular embodiments and applications of the present invention have been illustrated and described, it is to be understood that the invention is not limited to the precise construction and components disclosed herein and that various modifications, changes, and variations which will be apparent to those skilled in the art may be made in the arrangement, operation and details of the method and apparatus of the present invention disclosed herein, without departing from the spirit and scope of the invention, which is defined in the following claims.

WHAT IS CLAIMED IS:

1. A system for mapping captured multimedia information onto emoticons for insertion into a communication using an Instant Messaging (IM) application, wherein the insertion is based on multimedia information, the system comprising:

an information capture module for capturing the multimedia information in the vicinity of a machine on which the user is using the IM application;

an information extraction and interpretation module communicatively coupled with the information capture module, for extracting relevant information from the captured multimedia information and interpreting it; and

a mapping module communicatively coupled with the information extraction and interpretation module, for mapping the interpreted information onto an emoticon.

2. The system of claim 1, wherein the multimedia information comprises at least one of audio information, still image information, and video information.

3. The system of claim 1, further comprising:

an Application Program Interface module for the IM application, communicatively coupled to the mapping module, for inserting the emoticon into the communication using the IM application.

4. The system of claim 1, wherein the emoticon is predefined by the IM application.

5. The system of claim 1, wherein the emoticon is predefined by a third-party application.

6. The system of claim 1, wherein the emoticon is created by the user.

7. The system of claim 6, wherein the emoticon is created by the user by processing captured multimedia information.

8. A method for mapping captured multimedia information onto emoticons for insertion into a communication using an Instant Messaging (IM) application, wherein the insertion is based on multimedia information, the method comprising:

receiving the captured multimedia information;

interpreting the captured multimedia information; and

mapping the interpreted information onto an emoticon.

9. The method of claim 8, wherein the multimedia information comprises at least one of audio information, still image information, and video information.

10. The method of claim 8, further comprising:
inserting the emoticon into the communication using the IM application.

11. The method of claim 8, wherein the step of mapping the interpreted information onto an emoticon comprises:
selecting one emoticon out of a plurality of emoticons predefined in the IM application.

12. The method of claim 8, wherein the step of mapping the interpreted information onto an emoticon comprises:
selecting one emoticon out of a plurality of emoticons predefined in a third-party application.

13. The method of claim 8, wherein the step of mapping the interpreted information onto an emoticon comprises:
selecting one emoticon out of a plurality of customized emoticons created by the user.

14. The method of claim 8, further comprising:
determining whether a trigger has been received;
responsive to the trigger being received, capturing the multimedia information.

15. A method for creating an emoticon for a communication using an IM application, based on captured multimedia information, the method comprising:
receiving the captured multimedia information; and
processing the received captured multimedia information to create an emoticon.

16. The method of claim 15, further comprising:
inserting the emoticon into the communication using the IM application.

17. The method of claim 15, further comprising:

storing the emoticon for use in a later IM communication using the application.

18. The method of claim 15, wherein the step of processing the received captured multimedia information to create an emoticon comprises:

reducing the size of the captured multimedia information.

19. The method of claim 15, wherein the step of processing the received captured multimedia information to create an emoticon comprises:

reducing the resolution of the captured multimedia information.

20. The method of claim 15, wherein the step of processing the received captured multimedia information to create an emoticon comprises:

selecting a frame from a plurality of frames of the captured multimedia information.

21. A system for mapping captured multimedia information onto emoticons for insertion into an electronic medium, wherein the insertion is based on multimedia information, the system comprising:

an information capture module for capturing the multimedia information in the vicinity of a machine in communication with the electronic medium;

an information extraction and interpretation module communicatively coupled with the information capture module, for extracting relevant information from the captured multimedia information and interpreting it; and

a mapping module communicatively coupled with the information extraction and interpretation module, for mapping the interpreted information onto an emoticon.

22. The system of claim 21, wherein the multimedia information comprises at least one of audio information, still image information, and video information.

23. The system of claim 21, further comprising:

an Application Program Interface module, communicatively coupled to the mapping module, for inserting the emoticon into the electronic medium.

24. A method for mapping captured multimedia information onto emoticons for insertion into an electronic medium, wherein the insertion is based on multimedia information, the method comprising:

receiving the captured multimedia information;

interpreting the captured multimedia information; and

mapping the interpreted information onto an emoticon.

25. The method of claim 24, wherein the multimedia information comprises at least one of audio information, still image information, and video information.

26. The method of claim 24, further comprising:

inserting the emoticon into the electronic medium.

27. A system for mapping captured multimedia information onto emoticons for insertion into an electronic communication, wherein the insertion is based on multimedia information, the system comprising:

an information capture module for capturing the multimedia information in the vicinity of a machine the user is using for the electronic communication;

an information extraction and interpretation module communicatively coupled with the information capture module, for extracting relevant information from the captured multimedia information and interpreting it; and

a mapping module communicatively coupled with the information extraction and interpretation module, for mapping the interpreted information onto an emoticon.

28. The system of claim 27, wherein the multimedia information comprises at least one of audio information, still image information, and video information.

29. The system of claim 27, further comprising:

an Application Program Interface module, communicatively coupled to the mapping module, for inserting the emoticon into the electronic communication.

USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

ABSTRACT OF THE DISCLOSURE

The present invention provides a method, and corresponding apparatus, for use of emoticons in IM applications by using sensory information captured by a device. Such information can include video, still image, and/or audio information. In one embodiment, based on a trigger to the system, multimedia input is captured, and relevant features are extracted from it. The extracted information is interpreted, and the interpreted information is mapped onto one or more specific pre-existing emoticons. These specific emoticons are then inserted into the IM communication via an IM API. In another aspect of the present invention, new emoticons are created based on the multimedia information captured. This can include generation of realistic emoticons based on the expressions on the user's face. Animated emoticons can also be created.

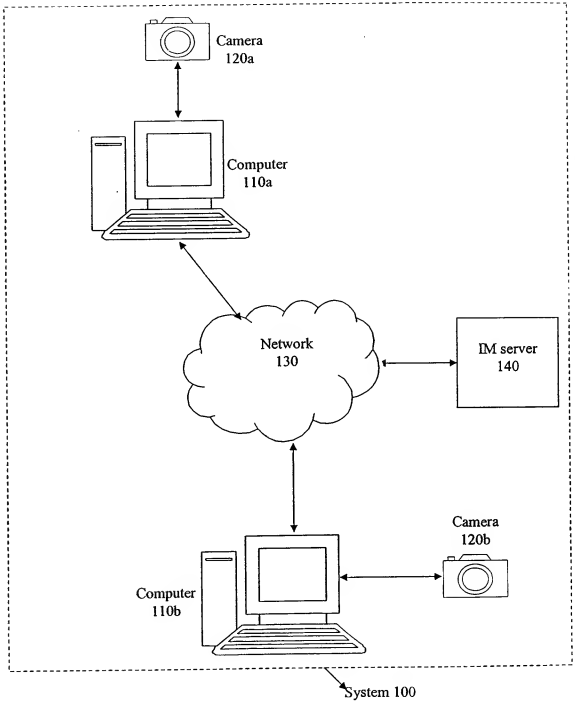
Camera
120a
Computer
110a
Network
130
IM server
140
Camera
120b
Computer
110b
System 100

Figure 1

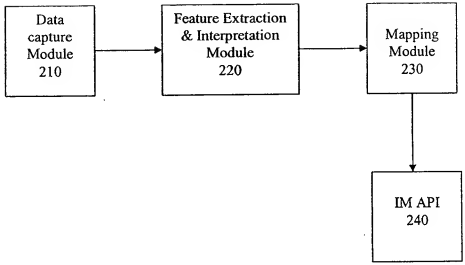
Data capture Module 210
Feature Extraction & Interpretation Module 220
Mapping Module 230
IM API 240

Figure 2

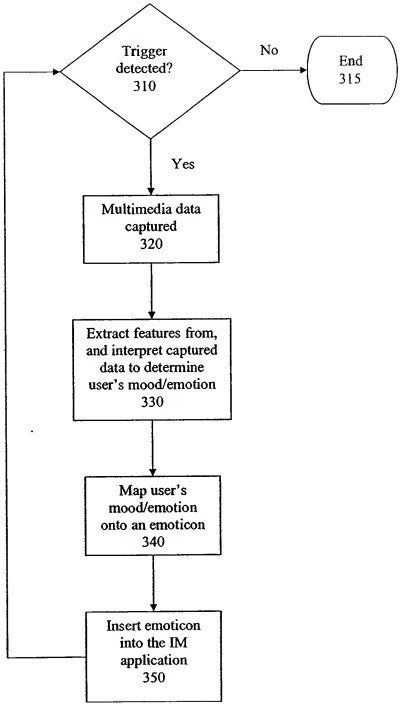
Trigger detected? 310
No
End 315
Yes
Multimedia data captured 320
Extract features from, and interpret captured data to determine user's mood/emotion 330
Map user's mood/emotion onto an emoticon 340
Insert emoticon into the IM application 350

Figure 3

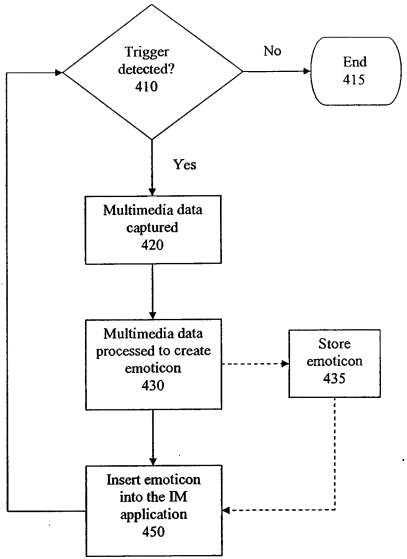
Trigger detected? 410
No
End 415
Yes
Multimedia data captured 420
Multimedia data processed to create emoticon 430
Store emoticon 435
Insert emoticon into the IM application 450

Figure 4

Sikora, Gloria J.

From: Sikora, Gloria J.
Sent: Friday, January 16, 2004 10:45 AM
To: 'Virginie_Henchoz@eu.logitech.com'
Subject: 9623V-047600US Request for signature

Re: New US Patent Application for
USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING
Our File 09623V-047600US

Dear Virginie:

Happy New Year!

9623V-476_ Power of Attorney.D...

9623V-476_ atement Under 37 .

9623V047600Assig n.pdf (59 KB)

Attached for signature by an officer of Logitech Europe S.A. are a Power of Attorney and Statement under 37 CFR 3.73(b) for the above-identified US patent application. Also attached is a copy of the Assignment as executed by the inventors in this application. Please print out the three documents and, if all is in order, type or print the officer's name, title and phone number where indicated on the Power and Statement and have each signed and dated.

Please return the executed documents to me as soon as possible for filing. Thank you for your help.

Best regards,

Gloria J. Sikora
Secretary to Paul C. Haughey
Townsend and Townsend and Crew LLP
379 Lytton Avenue
Palo Alto, CA 94301
tel: 650.324.6315 (direct)
fax: 650.326.2422
gjsikora@townsend.com

www.townsend.com

Offices in:
Denver | Palo Alto | San Diego | San Francisco | Seattle | Walnut Creek

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POWER OF ATTORNEY and CORRESPONDENCE ADDRESS INDICATION FORM		
	Application Number	
	Filing Date	
	First Named Inventor	Zimmermann, Remy
	Title	USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING
	Art Unit	
	Examiner Name	
	Attorney Docket Number	09623V-047600US

I hereby appoint:

☒ Practitioners associated with the Customer Number **20350**

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
Address					
City		State		ZIP	
Country					
Telephone		Fax			

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Name			
Signature			
Date		Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Remy Zimmermann

Application No./Patent No.: _____ Filed/Issue Date: _____

Entitled: USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

Logitech Europe S.A., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
   The extent (by, percentage) of its ownership interest is ____%

in the patent application/patent identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel ____, Frame ____, or for which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To : _____
   The document was recorded in the United States Patent and Trademark Office at Reel ____, Frame ____, or for which a copy thereof is attached.

2. From: _____ To : _____
   The document was recorded in the United States Patent and Trademark Office at Reel ____, Frame ____, or for which a copy thereof is attached.

3. From: _____ To : _____
   The document was recorded in the United States Patent and Trademark Office at Reel ____, Frame ____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.8]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Date	Typed or printed name
Telephone number	Signature
	Title

Attorney Docket No.: 09623V-047600US

ASSIGNMENT OF PATENT APPLICATION

SOLE

WHEREAS, **Remy Zimmermann** of 1549 Molitor Road, Belmont, California 94002, hereinafter referred to as "Assignor," is the inventor of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING

Date(s) of execution of Declaration: January 9, 2004

Filing Date: _____

Application No.: _____; and

WHEREAS, **Logitech Europe S.A.**, located at Moulin du Choc, 1122 Romanel-sur-Morges, Switzerland, hereinafter referred to as "Assignee," is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has assigned, and by these presents does assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on any patent application claiming priority from the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignor had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees that Assignor will, without charge to Assignee, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

Assignor hereby authorizes and requests Townsend and Townsend and Crew LLP, Two Embarcadero Center, Eighth Floor, San Francisco, CA 94111-3834, to insert herein above the application number and filing date of said application when known.

IN TESTIMONY WHEREOF, Assignor has signed his name on the date indicated.

Dated: 01/09/04

Remy Zimmermann

GJS

Logitech

BY DHL

TOWNSEND and TOWNSEND and CREW
To the att. of Mrs Gloria J. Sikora
379 Lytton Avenue
PALO ALTO
CA 94301-1431
USA

Your ref : -
Our réf : FB/vh

Romanel/Morges, January 20th, 2004

New US Patent Application for
USE OF MULTIMEDIA DATA FOR EMOTICONS IN INSTANT MESSAGING
Your File 09623V-047600US

Dear Gloria,

Please find enclosed the above-mentioned US Patent Appln duly signed by Mrs Wynne and Mr Bussien in the name of Logitech Europe SA.

Should you have any questions, please do not hesitate to contact us.

Yours sincerely,

LOGITECH EUROPE SA

V. Henchoz

Virginie Henchoz
Legal Assistant

Enc.

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ATTACHMENT 4